Application No.: 10/067,424 Amendment of July 1, 2003

## IN THE CLAIMS:

Please amend claims 7 and 11, and add new claims 16-19, as follows:

- 1-6. (Previously Cancelled)
- 7. (Currently Amended) A method for making a high fill factor image array comprising the steps:

providing a plurality of source-drain metal contacts;

depositing a first passivation layer;

depositing a second passivation layer that suppresses lateral leakage current; opening a plurality of via holes through the first and second passivation layers;

depositing a layer of conductive material;

depositing a first doped a-Si layer;

patterning to form collection electrodes;

depositing a continuous layer of i a-Si disposed on the second passivation layer;

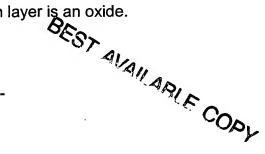
depositing a continuous second layer of doped a-Si;

depositing and patterning an upper conductive layer.

- 8. (Original) The method for making a high fill factor image array according to claim 7, wherein the first passivation layer comprises silicon oxynitride, BCB, or a polyamide.
- 9. (Original) The method for making a high fill factor image array according to claim 7, wherein the second passivation layer is an oxide.

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- 10. (Currently Amended) The method for making a high fill factor image array according to claim 7, wherein the second <u>passivation layer</u> has a thickness of about 1000 Å.
  - 11. (Currently Amended) A high fill factor image array formed by: providing a plurality of source-drain metal contacts; depositing a first passivation layer;

depositing a second passivation layer over the first passivation layer that suppresses lateral leakage current;

opening a plurality of via holes through the first and second passivation layers; depositing a layer of conductive material;

depositing a first doped a-Si layer;

patterning to form collection electrodes;

depositing a continuous layer of i a-Si <u>disposed on the second passivation layer</u>; depositing a continuous second layer of doped a-Si;

depositing and patterning an upper conductive layer.

- 12. (Original) The high fill factor image array of claim 11, wherein the first passivation layer comprises at least one of silicon oxynitride, BCB, or a polyamide.
- 13. (Original) The high fill factor image array of claim 11, wherein the second passivation layer is an oxide.



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- 14. (Previously Amended) The high fill factor image array of claim 11, wherein the second passivation layer has a thickness of about 1000 Å.
- 15. (Previously Amended) The high fill factor image array of claim 11, wherein a thickness of the second passivation layer is less than a thickness of the first passivation layer.
- 16. (New) A method for making a high fill factor image array comprising:

  providing a source-drain metal contact;

  depositing a first passivation layer over the source-drain metal contact;

  depositing a second passivation layer over the first passivation layer;

  opening a via hole through the first and second passivation layers to expose the source-drain metal contact;

depositing a layer of conductive material on the source-drain metal contact, such that the layer of conductive material makes electrical contact with the source-drain metal contact;

depositing a first doped a-Si layer on the layer of conductive material;

patterning the a-Si layer and the layer of conductive material to form a collection electrode;

depositing sensor material comprising a continuous layer of i a-Si over the collection electrode and at least a portion of the second passivation layer; depositing a continuous layer of doped a-Si over the continuous layer of i a-Si;



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depositing a conductive layer over the continuous layer of doped a-Si; and patterning conductive layer to form an upper electrode.

- 17. (New) The method for making a high fill factor image array according to claim 16, wherein the first passivation layer comprises silicon oxynitride, BCB, or a polyamide.
- 18. (New) The method for making a high fill factor image array according to claim 16, wherein the second passivation layer is an oxide.
- 19. (New) The method for making a high fill factor image array according to claim 16, wherein the second passivation layer has a thickness of about 1000 Å.

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